



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,344	04/02/2004	Mohamad El-Batal	LSI.95US01 (03-1911)	3273

24319 7590 03/23/2007
LSI LOGIC CORPORATION
1621 BARBER LANE
MS: D-106
MILPITAS, CA 95035

EXAMINER

CHU, GABRIEL L

ART UNIT	PAPER NUMBER
----------	--------------

2114

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/817,344

Applicant(s)

EL-BATAL, MOHAMAD

Examiner

Gabriel L. Chu

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 5 objected to because of the following informalities: Referring to claim 5, it is understood to depend from claim 4, as is evidenced by claim 5 not capable of being dependent on claim 5, but also by Applicant's pre-amendment. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 4, 6, 7, 10, 13, 15, 16, rejected under 35 U.S.C. 103(a) as being unpatentable over US 5305013 to Daniels in view of US6654816 to Zaudtke et al. (herein Z).**

4. Referring to claim 1, 10, Wong discloses an apparatus for locating a failed disk drive in a plurality of disk drives on a removable disk array module having a backplane connector, comprising in combination: a host controller disposed on said disk array module for identifying a failed disk drive and for determining the location thereof on said disk array module (From line 6 of column 3, "The processor 86 receives information regarding the status of each of the disk drives 51 through 58 from the disk drive interface 82. The processor 86 writes information through a driver 88 to the LED's 41 through 48 to set the output of each of the LED's 41 through 48 depending on the status

of their corresponding disk drives 51 through 58.”).

Although Wong does not disclose a non-volatile memory device disposed on said disk array module for receiving the location of the failed disk drive from said host controller, and for recording same; and a portable disk locator adapted for communicating with said non-volatile memory device, and for causing the location of the failed disk drive to be displayed, storing failure information for display on portable diagnostics is known in the art. An example of this is shown by Zaudtke, from line 51 of column 3, “In yet further embodiments, a memory, such as implemented using non-volatile (NV) memory devices or the like, may be coupled to the microcontroller for storing the status information of the computer. The microcontroller may then store status information from the computer into its NV memory, or may further store information from the handheld device sent via the infrared transceiver. In yet another embodiment, the computer infrared transceiver, the microcontroller and the NV memory receive auxiliary power so that these devices are operational when the computer is powered down. In this manner, the microcontroller sends information from the NV memory to the handheld device even when the computer is powered down.”). A person of ordinary skill in the art at the time of the invention would have been motivated to use a handheld device and non-volatile memory because, as disclosed by Zaudtke, “so that these devices are operational when the computer is powered down”, and from the abstract, “The handheld device effectively replaces external LCD health status hardware that typically consumes valuable space on the front bezel of the computer. The handheld device may further replace traditional input/output (I/O) devices, such as

Art Unit: 2114

a keyboard, a mouse, a monitor, a disk drive, etc. For example, the handheld device may be utilized to monitor and control boot up operations of the computer, such as displaying boot up information or otherwise executing setup or diagnostic routines."

Further, Daniels discloses just such a situation described by Zaudtke, from the abstract, "A graphical display icon on the front of a data storage unit provides status information on disk drives within the unit. The icon has a shape identical to that of the unit and includes a number of bicolor LED's which each correspond to a similarly situated disk drive located in the unit. The color emitted by the LED's communicate information on the status of the corresponding disk drive within the unit."

5. Referring to claim 4, 7, 13, 16, Daniels in view of Z discloses said portable disk locator device comprises a power supply for providing electrical energy to the components thereof (From line the abstract of Z, "Auxiliary power may enable handheld communications when the computer is shut down."),

a processor for reading said non-volatile memory device and indicator devices disposed in a configuration similar to that of said disk drives on said disk array module, such that the location of a failed disk drive is displayed by activation of said indicator device corresponding to that disk drive (Daniels, from line 6 of column 3, "The processor 86 receives information regarding the status of each of the disk drives 51 through 58 from the disk drive interface 82. The processor 86 writes information through a driver 88 to the LED's 41 through 48 to set the output of each of the LED's 41 through 48 depending on the status of their corresponding disk drives 51 through 58." Zaudtke, from line 51 of column 3, "In yet further embodiments, a memory, such as implemented

using non-volatile (NV) memory devices or the like, may be coupled to the microcontroller for storing the status information of the computer. The microcontroller may then store status information from the computer into its NV memory, or may further store information from the handheld device sent via the infrared transceiver. In yet another embodiment, the computer infrared transceiver, the microcontroller and the NV memory receive auxiliary power so that these devices are operational when the computer is powered down. In this manner, the microcontroller sends information from the NV memory to the handheld device even when the computer is powered down."

Abstract, Z, "The handheld device effectively replaces external LCD health status hardware that typically consumes valuable space on the front bezel of the computer.").

6. Referring to claim 6, 15, Daniels in view of Z discloses said disk array module comprises a plurality of indicator devices adapted to be activated by said portable disk locator, at least one indicator device of said plurality of indicator devices being disposed in the vicinity of each of said disk drives (See, for example, figure 1 of Z wherein the handheld device is "in the vicinity").

7. Claim 2, 11 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5305013 to Daniels in view of US6654816 to Zaudtke et al. as applied to claim 1, 10 above, and further in view of US 5367647 to Coulson et al.

8. Referring to claim 2, 11, although Daniels in view of Z in view does not specifically disclose said portable disk locator comprises means for resetting said non-volatile memory device when the failed disk has been repaired or replaced, this is known in the art. An example of this is shown by Coulson, from line 62 of column 9, "An

Art Unit: 2114

on-line replacement scheme for peripheral devices 30 requires apparatus for software control of power for selected ones of the devices. In a typical scenario, computer 28 detects a fault in the data received from peripheral device 30B. Computer 28 responds by sending to monitor board 70 commands that illuminate the indicator 74B "fail" LED and turn off the power to peripheral device 30B. When peripheral device 30B is deactivated, computer 28 sends to monitor board 70 a command that illuminates the indicator 74B "repair" LED. Peripheral device 30B can then be safely replaced. Computer 28 detects removal and replacement of peripheral device 30B by checking the state of the appropriate "device inserted" bit in monitor register 80. Following replacement, computer 28 commands power control register 78 to restore power to peripheral device 30B. Computer 28 also commands indicator control register 76 to extinguish the indicator 74B "repair" and "fail" LEDs. The above scenario describes one way in which defective peripheral devices 30 installed on SCSI bus 12 can be replaced without the necessity of powering down the entire computer system." A person of ordinary skill in the art at the time of the invention would have been motivated to no longer indicate a failed drive when it is not failing because the purpose of Daniels and Coulson is to point out a failed drive, and continuing to indicate a failed drive when it is not failed, and has in fact been replaced with a functioning drive, would be highly counter-productive.

9. Claim 3, 9, 12, 18 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5305013 to Daniels in view of US6654816 to Zaudtke et al. as applied to claim 1, 7, 15 above, and further in view of US 5864659 to Kini.

Art Unit: 2114

10. Referring to claim 3, 9, 12, 18, Daniels in view of Z discloses said portable disk locator device comprises a connector adapted for mating with a connector of said removable disk array module, such that said portable disk location module is placed in electrical communication with said non-volatile memory device (From line 1 of column 7, "Each of the server computers 101-109 includes an I/O port that interfaces with the handheld device 123 to enable communication with each of the server computers 101-109. In some embodiments, the server computers 107 and 109 include serial ports 121 that couple via appropriate connectors to a serial cable 127 or the like. The serial ports 121 may be located anywhere on the server computers, such as the front bezel for convenient access by the administrator 126. In one embodiment, the serial cable 127 couples to a docking cradle 131 for receiving and docking the handheld device 123. The docking cradle 131 includes an appropriate connector 133 that interfaces a corresponding serial connector 127 of the handheld device 123 to enable communications when docked. In another embodiment, the serial cable 127 includes an appropriate connector 129 that is connected directly to the connector 125 of the handheld device 123 to enable communications.").

Further referring to claim 9, this connection is such that at least one indicator device of said plurality of indicator devices disposed in the vicinity of each disk drive can receive electrical power (The electrical connection of Z enables the electrical indication of failure.).

Although Daniels in view of Z does not specifically disclose that the portable disk locator device is connected to the backplane, this is known in the art. An example of this

is shown by Kini, from line 34 of column 4, "One advantage of providing the system management capabilities on an add-in board, instead of included as part of the motherboard circuitry, is that a purchaser of a computer server need not be required to buy such capabilities unless he needs the extra reliability, accessibility, serviceability, or other monitoring capability. This permits manufacturers to keep down the cost of the servers in a very price-sensitive market." A person of ordinary skill in the art at the time of the invention would have been motivated to make a locator "portable" because, as indicated in Kini, "This permits manufacturers to keep down the cost of the servers in a very price-sensitive market."

11. Claims 5, 8, 14, 17 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5305013 to Daniels in view of US6654816 to Zaudtke et al. as applied to claims 4, 7, 13, 16 above.

12. Referring to claim 5, 8, 14, 17, Daniels in view of Z discloses said power supply comprises a power supply (From line 55 of column 2, "The handheld device may be any type of portable device including a corresponding serial or infrared communication port, such as a palm PC (PPC) a personal digital assistant (PDA), a notebook computer, etc.").

Although Daniels in view of Z does not specifically disclose that the handheld device, in any of its forms must be powered by a battery, this is very well known in the art. An example of this a battery. A person of ordinary skill in the art at the time of the invention would have been motivated to use a battery to power a handheld device

Art Unit: 2114

because it allows it to be portable and not tethered to a power source such as a wall socket.

Response to Arguments

13. Applicant's lack of response regarding priority is interpreted as denying any such benefit of priority.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2114

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Gabriel L. Chu
Primary Examiner
Art Unit 2114

gc